

REMARKS/ARGUMENTS

Favorable reconsideration of this application is requested in view of the above amendments and in light of the following remarks and discussion.

Claims 1-4, 6, and 8-28 are pending. Claims 5 and 7 are canceled without prejudice or disclaimer. Claims 1, 6, 8, 17, and 24 are amended. Support for the amendment to Claim 1 can be found in now-canceled dependent Claim 5, for example. Support for the amendment to Claims 6 and 24 can be found in now-canceled dependent Claim 7, for example. Support for the amendment to Claim 8 is self-evident. Support for the amendment to Claim 17 can be found in Fig. 3B, for example. No new matter is added. The specification is amended to delete reference numbers in the abstract.

In the outstanding Office Action, Claims 7-8 were rejected under 35 U.S.C. § 112, second paragraph as indefinite. Claims 1-5 and 25 were rejected under 35 U.S.C. § 102(b) as anticipated by Naoki et al. (U.S. Patent No. 6,074,487, herein "Naoki '487"). Claims 1 and 25 were rejected under 35 U.S.C. § 102(b) as anticipated by Sun et al. (U.S. Patent No. 6,409,839, herein "Sun '839"). Claims 6, 24, 26, and 28 were rejected under 35 U.S.C. § 102(b) as anticipated by Zhao et al. (U.S. Patent Pub. 2003/0033978, herein "Zhao '978"). Claims 17, 20, 22, and 27 were rejected under 35 U.S.C. § 102(b) as anticipated by Kim (U.S. Patent No. 6,144,802, herein "Kim '802"). Claims 4-5 and 8-10 were rejected under 35 U.S.C. § 103(a) as obvious over Sun '839 in view of Naoki '487. Claims 7, 8, 10-13, and 15 were rejected under 35 U.S.C. § 103(a) as obvious over Naoki '487 in view of Zhao '978. Claim 14 was rejected under 35 U.S.C. § 103(a) as obvious over Zhao '978, Naoki '487, and Sun '839. Claims 18-19 were rejected under 35 U.S.C. § 103(a) as obvious over Kim '802 in view of Ushlkoshi et al. (U.S. Patent No. 5,683,606, herein "Ushlkoshi"). Claim 21 was rejected under 35 U.S.C. § 103(a) as obvious over Kim '802. Claim 23 was rejected under 35 U.S.C. § 103(a) as obvious over Kim '802 in view of Zhao '978. Claims 1-5 and 25 were

provisionally rejected on the ground of nonstatutory obviousness-type double patenting as unpatentable over Claims 1, 4-8, and 10-12 of copending application Serial No. 10/565,676 in view of Naoki '487.

Regarding the rejection of Claims 7-8 as indefinite, Claim 7 is canceled without prejudice or disclaimer. Claim 8 is amended to depend from independent Claim 6, which recites "a shield plate." Accordingly, Applicants respectfully submit that the term "shield plate" finds antecedent basis in amended independent Claim 6, and the rejection of Claims 7-8 as indefinite is overcome.

Regarding the rejection of Claims 1-5 and 25 as anticipated by Naoki '487, that rejection is respectfully traversed by the present response.

Inasmuch as independent Claim 1 is amended to incorporate all of the features of now-canceled dependent Claim 5, Applicants discuss the rejection of dependent Claim 5 in relation to amended independent Claim 1. Amended independent Claim 1 recites, in part:

a heating portion configured to heat the vaporizer,
wherein the delivery part comprises
a filter member covering the gas outlet and configured
to allow the gas material to pass therethrough, and
a heat transfer member configured to transfer heat of the
heating portion to the filter member,
wherein the heat transfer member is in thermal contact
with the filter member at a position other than a peripheral
portion.

Accordingly, the vaporizer includes a heat transfer member configured to transfer heat of the heating portion to the filter member. The heat transfer member is in thermal contact with the filter member at a position other than a peripheral portion.

In contrast, Naoki '487 describes that an atomized liquid material is brought into contact with a porous heater (216), as shown in Fig. 13, and is thereby vaporized. The heater (216) also serves as a filter. Naoki '487 states:

Since the heating element 216 is porous, passing through the heating element 216 is like being filtered. Then the liquid

material M after passing through the heating element 216 diffuses in the heating space S2 in a state of uniform gaseous particles.¹

Thus, the heater (216) and filter are the same component. Naoki '487 does not teach or suggest a heat transfer member configured to transfer heat of a heating portion for heating the vaporizer **to the filter member** as recited in amended independent Claim 1. Nor does Naoki '487 teach a heat transfer member in thermal contact with the filter member at a position other than a peripheral portion.

The outstanding Office Action asserts that Naoki '487 teaches or suggests the heat transfer member recited in independent Claim 1 stating that Naoki '487 provides "a heat transfer member (side spacer heater #217 and top heater #218 are directly connected to #216 filter, col. 10, lines 29-34) configured to transfer heat of the heating portion to the filter member."² However, Applicants respectfully note that the side heater (217) and top heater (218) are not directly connected to the heater (216). Rather, as shown in Fig. 13, the side heater (217) and top heater (218) are **separated** from the heater (216) by the space (S2). Accordingly, Naoki '487 fails to teach or suggest a heat transfer member configured to transfer heat of the heating portion to the filter member, wherein the heat transfer member is in thermal contact with the filter member at a position other than a peripheral portion as recited in amended independent Claim 1. Thus, Applicants respectfully submit that amended independent Claim 1 and Claims 2-4 and 25 depending therefrom patentably distinguish over Naoki '487 for at least the reasons discussed above.

Regarding the rejection of Claims 1 and 25 as anticipated by Sun '839, that rejection is respectfully traversed by the present response.

The outstanding Office Action points to the outlet member (160B) disposed below the filter (160) for the feature of a heat transfer member. However, **the outlet member (160B) is**

¹ Naoki, col. 10, lines 55-59.

² Outstanding Office Action, page 3, lines 6-8.

~~not arranged to positively transfer heat of a heating portion for heating a vaporizer to a filter member as is the heat transfer member~~ recited in amended independent Claim 1.

Rather, as shown in Fig. 11, the center outlet opening (160B), which is relied on in the outstanding Office Action for a heat transfer member³, is disposed adjacent to a manifold (162). The manifold (162) is in turn abutted against a central support (148). The central support (148) supports the heater (158). Accordingly, the center outlet opening (160B) does not correlate to the heat transfer member recited in now-canceled dependent Claim 5 or the heat transfer member recited in amended independent Claim 1.

Additionally, the center outlet opening (160B) is disposed in contact with the lower end of the filter (160) and does not satisfy the recitation that the heat transfer member is in thermal contact with the filter member at a position other than a peripheral portion.

Accordingly, Applicants respectfully submit that amended independent Claim 1 and Claim 25 depending therefrom patentably distinguish over Sun '839 for at least the reasons discussed above.

Regarding the rejection of Claim 6, 24, 26, and 28 as anticipated by Zhao '978, that rejection is respectfully traversed by the present response. On page 5, the outstanding Office Action cites Zhao '978 in the anticipation rejection, but then states "'839" teaches all limitations of claim 6." As the outstanding Office Action goes on to refer to reference numbers from Zhao '978, the reference to "'839" on pages 5 and 6 appears to be only a clerical error.

Inasmuch as Claim 6 is amended to recite the features of now-canceled dependent Claim 7, Applicants address the rejection of dependent Claims 7, 8, 10-13, and 15 as obvious over Naoki '487 and Zhao '978 in the discussion of amended independent Claim 6.

³ Outstanding Office Action, page 5.

Regarding Zhao '978, the outstanding Office Action asserts that a distributor tube (177) and a second tube (178), as shown in Fig. 11, correspond to the filter member and shield plate recited in independent Claim 6.⁴ However, as each of the two members (177) and (178) include a filter structure, the member (178) cannot serve as a shield plate as recited in independent Claim 6. Amended independent Claim 6 recites that the shield plate is interposed between the vaporizing chamber and filter member to prevent the gas material, which flows toward the gas outlet, from directly reaching the filter member while traveling in a straight path from the vaporizing chamber. Regarding the two members (177) and (178), the outstanding Office Action states:

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have combined '978 with '487. Specifically, to have provided multiple sintered porous plates in Fig. 13 of '487 (instead of just one porous plate #216) for the purpose to provide increased surface area to filter out liquid droplets, the inner plate having larger porosity than the outer plate, with a reasonable expectation of success.

In the above arrangement, the inner sintered porous plate would have functioned as "a shield plate" the protected the outer plate (the filter in the claim). Furthermore, the circuitous through-passages would have "prevent(ed) the gas material in the vapor chamber from directly reaching the filter member"; to have obtained the invention of claim 7.⁵

The outstanding Office Action asserts that it would be obvious to modify Naoki '487 to include two heating elements (216). The outstanding Office Action appears to assert that, once Naoki '487 is modified to include heating elements (216), it would be inherent that placement of a second heating element (216) in front of a first heating element (216) would provide a shield plate covering a filter member as recited in Claim 6.

Claim 6 recites that the shield plate is disposed on a side of the filter member farther from the gas outlet and interposed between the vaporizing chamber and the filter member to

⁴ Outstanding Office Action, page 5.

⁵ Outstanding Office Action, pages 10-11.

prevent the gas material, which flows toward the gas outlet, from directly reaching the filter member while traveling in a straight path from the vaporizing chamber.

Applicants respectfully submit that, assuming *arguendo* a second heating element (216) were placed in front of the heating element (216), it is not necessarily true that gas material, which flows toward the gas outlet, would be prevented from directly reaching the filter member while traveling in a straight path from the vaporizing chamber as recited in amended independent Claim 6. Rather, gas material could flow directly through a second heating element (216).

However, "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." MPEP § 2112, In re Rijckaert, 9 F.3d 1531, 1534, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993).

Moreover:

to establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."

In re Robertson, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999).

Even if '487 were modified to include a second heating element (216) as asserted in the outstanding Office Action, it is not necessarily true that second heating element (216) would prevent the gas material, which flows toward the gas outlet, from directly reaching the filter member while traveling in a straight path from the vaporizing chamber. Accordingly, Applicants respectfully submit that amended independent Claim 6 patentably distinguishes over Naoki '487 and Zhao '978 taken separately or in any proper combination.

Amended independent Claim 24 recites substantially similar features to those discussed above regarding amended independent Claim 6, and Applicants respectfully submit that amended independent Claim 24 patentably distinguishes over any proper combination of

Naoki '487 and Zhao '978 for at least the reasons discussed above regarding amended independent Claim 6.

Claims 26 and 28 each depend from one of amended independent Claims 6 and 24 and patentably distinguish over any proper combination of Naoki '487 and Zhao '978 for at least the reasons discussed above regarding amended independent Claim 6.

Regarding the rejection of Claims 17, 20, 22, and 27 as anticipated by Kim '802, that rejection is respectfully traversed by the present response. Regarding Kim '802, the outstanding Office Action asserts that the external vessel (403) and internal vessel (405) shown in Fig. 4, correspond to the columns disposed to serve as a fluid baffle recited in independent Claim 17.

However, the columns recited in independent Claim 17 correspond to, for example, members (157Y), shown in Fig. 9A. In order to clarify this point, Claim 17 has been amended to include the recitation that **the columns extend from the wall around the gas outlet to the plate member**. Applicants respectfully submit that the external vessel (403) and internal vessel (405) are not **columns** as a person of ordinary skill in the art would understand the term, much less a plurality of columns disposed in the gas passage to serve as a fluid baffle and extending from the wall around the gas outlet to a plate member as recited in amended independent Claim 17. Rather, Kim '802 describes the external vessel (403) as something that contains fluid.⁶ Accordingly, Applicants respectfully submit that amended independent Claim 17 and Claims 20, 22, and 27 depending therefrom patentably distinguish over Kim '802 for at least the reasons discussed above.

Regarding the rejection of Claims 4-5 and 8-10 as obvious over Sun '839 in view of Naoki '487, that rejection is respectfully traversed by the present response. As discussed above, neither of Naoki '487 and Sun '839 teaches or suggests the heat transfer member

⁶ Kim '802, col. 4, lines 12-13.

recited in amended independent Claim 1. Accordingly, Applicants respectfully submit that dependent Claim 4 patentably distinguishes over any proper combination of Naoki '487 and Sun '839 for at least the same reasons as amended independent Claim 1 does.

Claims 8-10 depend from amended independent Claim 6. It appears that the outstanding Office Action groups Claims 8-10 in the rejection of Claims 4-5 due to a typographical error inasmuch as independent Claim 6, from which Claims 8-10 depend, was not rejected in view of either of Sun '839 or Naoki '487. Rather, Claim 6 was rejected only as anticipated by Zhao '978, and Zhao '978 is not asserted in the rejection of Claims 8-14 in item 6 on page 8 of the outstanding Office Action.

As discussed above, no proper combination of Naoki '487 and Zhao '978 would include all of the features recited in amended independent Claim 6, and therefore, Applicants respectfully submit that the rejection of Claims 8, 10-13, and 15 as obvious over Naoki '487 and Zhao '978 is overcome.

Regarding the rejection of Claim 14 as obvious over Zhao '978, Naoki '487 and Metzner '860, that rejection is respectfully traversed by the present response.

Claim 14 depends from amended independent Claim 6 and patentably distinguishes over Naoki '487 and Zhao '978 for at least the same reasons as amended independent Claim 6 does.

The outstanding Office Action relies on Metzner '860 for the feature of a temperature sensor disposed at a shield plate, wherein a control member is configured to control temperature of a heating portion based on a signal detected by the sensor.⁷ Applicants respectfully submit that Metzner '860 fails to remedy the deficiencies discussed above regarding Naoki '487 and Zhao '978 inasmuch as Metzner '860 fails to teach or suggest that a shield plate is interposed between a vaporizing chamber and a filter member to prevent gas

⁷ Outstanding Office Action, page 13.

material, which flows toward a gas outlet, from directly reaching the filter member while traveling in a straight path from the vaporizing chamber as recited in amended independent Claim 6. Accordingly, no proper combination of Naoki '487, Zhao '978 and Metzner '860 would include all of the features recited in amended independent Claim 6. Thus, Claim 14, depending from amended independent Claim 6, patentably distinguishes over any proper combination of Naoki '487, Zhao '978 and Metzner '860.

Regarding the rejection of Claim 16 as obvious over Zhao '978 in view of Naoki '487 and further in view of Sun '839, that rejection is respectfully traversed by the present response.

As discussed above Claim 6, from which Claim 16 depends, patentably distinguishes over any proper combination of Zhao '978 and Naoki '487. Sun '839 fail to remedy the deficiencies of Zhao '978 and Naoki '487 discussed above. Accordingly, Applicants respectfully submit that no proper combination of Zhao '978, Naoki '487 and Sun '839 would include all of the features recited in dependent Claim 16.

Regarding the rejection of Claims 18-19 as obvious over Kim '802 in view of Ushlkoshi '606, that rejection is respectfully traversed by the present response.

As discussed above regarding amended independent Claim 17, Kim '802 fails to teach or suggest a plurality of columns disposed in a gas passage to serve as a fluid baffle, the columns extending from the wall around the gas outlet to the plate member. Ushlkoshi '606 fails to remedy this deficiency of Kim '802. Rather, the outstanding Office Action relies on Ushlkoshi '606 for the feature of a heater embedded in a plate member. Ushlkoshi '606 relates to ceramic heaters, but is devoid of any teaching or suggestion regarding shields, filters, or columns as recited in amended independent Claim 17. Accordingly, Applicants respectfully submit that Ushlkoshi '606 fails to remedy the deficiencies discussed above regarding Kim '802 and amended independent Claim 17.

Regarding the rejection of Claim 21 as obvious over Kim '802, Claim 21 depends from amended independent Claim 17 and patentably distinguishes over Kim '802 for at least the same reasons as amended independent Claim 17 does.

Regarding the rejection of Claim 23 as obvious over Kim '802 in view of Zhao '978, that rejection is respectfully traversed by the present response.

The outstanding Office Action relies on Zhao '978 for the feature of a filter member covering a gas outlet and configured to allow gas material to pass therethrough. However, Applicants respectfully submit that the deficiency discussed above regarding Kim '802 and the recited plurality of columns disposed in a gas passage to serve as a fluid baffle and extending from the wall around a gas outlet to a plate member is not remedied by Zhao '978. Rather, Zhao '978 describes tubes (177) and (178) as connected to an upper block (188). The outstanding Office Action asserts that the tubes (177) and (178) can function as a filter and a shield plate.⁸ However, neither of elements (177) and (178) is supported by columns as a person of ordinary skill in the art would understand the term "columns." Accordingly, Applicants respectfully submit that no proper combination of Kim '802 and Zhao '978 would include all of the features of dependent Claim 23.

Regarding the provisional rejection of Claims 1-5 and 25 on the ground of nonstatutory obviousness-type double patenting as obvious over Claims 1, 4-8, and 10-12 of copending Application Serial No. 10/565,676, in view of Naoki '487, a Terminal Disclaimer against Application Serial No. 10/565,676 is submitted herewith. Accordingly, Applicants respectfully submit that the rejection is overcome.

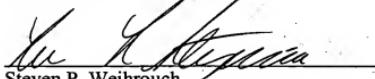
For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. A Notice of Allowance for Claims 1-4, 6, and 8-28 is earnestly solicited.

⁸ Outstanding Office Action, page 5.

Should Examiner Chen deem that any further action is necessary to place this application in even better form for allowance, he is encouraged to contact Applicants' undersigned representative at the below-listed telephone number.

Respectfully submitted,

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